

# Overview FEMP Support for CHP

## Chicago DER Workshop

Keith Kline

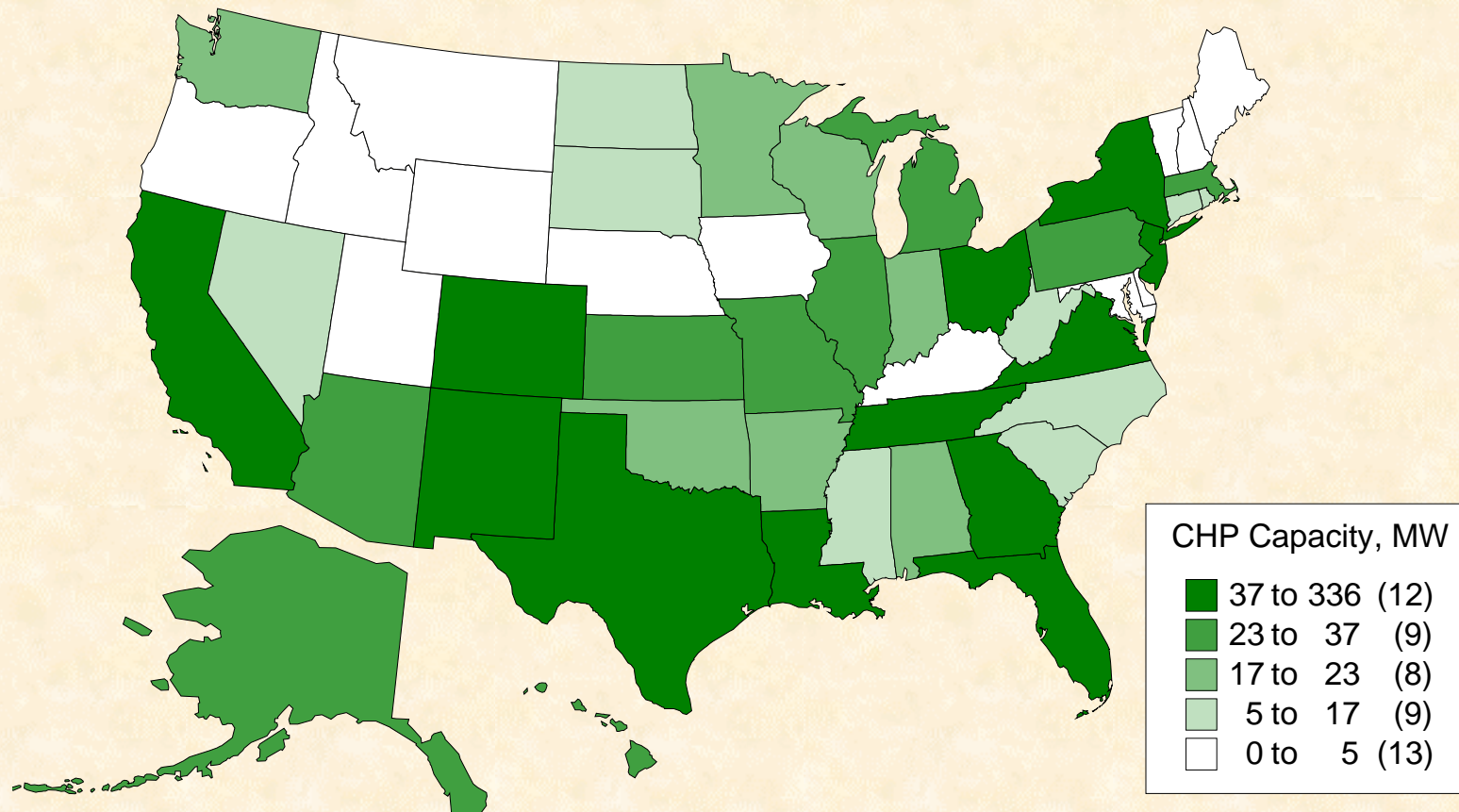
Oak Ridge National Laboratory (ORNL)

June 25, 2002

# What is Federal CHP Potential?

- **Market Assessment of CHP at Federal sites (Feb. 2002)**
  - Reports available from FEMP booth.
  - Full report online at [www.ornl.gov/femp/pdfs/chp\\_market\\_assess.pdf](http://www.ornl.gov/femp/pdfs/chp_market_assess.pdf)
- **Base Case: Sites with simple payback in less than 10 years = 1500-1600 MW (gas recip-ICE or gas combustion turbine)**

# Distribution of CHP Potential at Federal Sites: >1500 MW





# Assessment: 1570 MW of Federal CHP Offers:

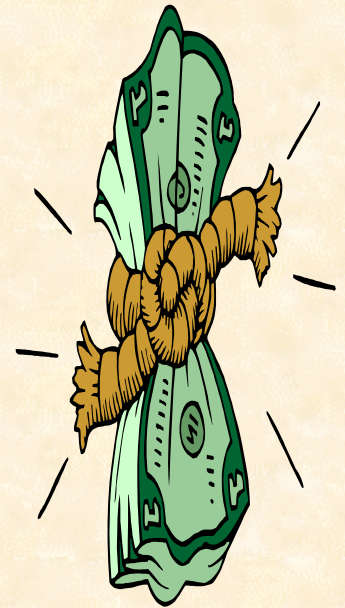
- ✓ **\$170 million/year in energy cost savings**
- ✓ **Avg. return on investment <8 years**
- ✓ **50 trillion Btu/yr of source energy savings**
- ✓ **4 million metric tons/yr of avoided CO2**
- ✓ **Increase reliability/security representing 13% of total federal electricity purchased (2000)**

**- e.g. this is significant!**



# Rules of thumb and Market Assessments –versus- How the market *really* works....

- **CHP project potential and development process is very *site-specific***
- **Sometimes, federal facility is one part of a larger load**
- **Agencies need financing – CHP is relatively new in the financed project market and utility/ESCO role is vital**



# FEMP – “ADD CHP”

- Accelerated Development and Deployment of Combined Heat and Power (CHP)
- Make proven CHP technology more accessible to the federal sector



# FEMP ADD CHP Offers Support to Federal Sites

- **Need estimate of CHP potential?**
  - **Quick Screening Service**
- **Need information on options and performance?**
  - **TA to agencies and project facilitators**
- **Need financing?**
  - **Assistance to identify potential partners**

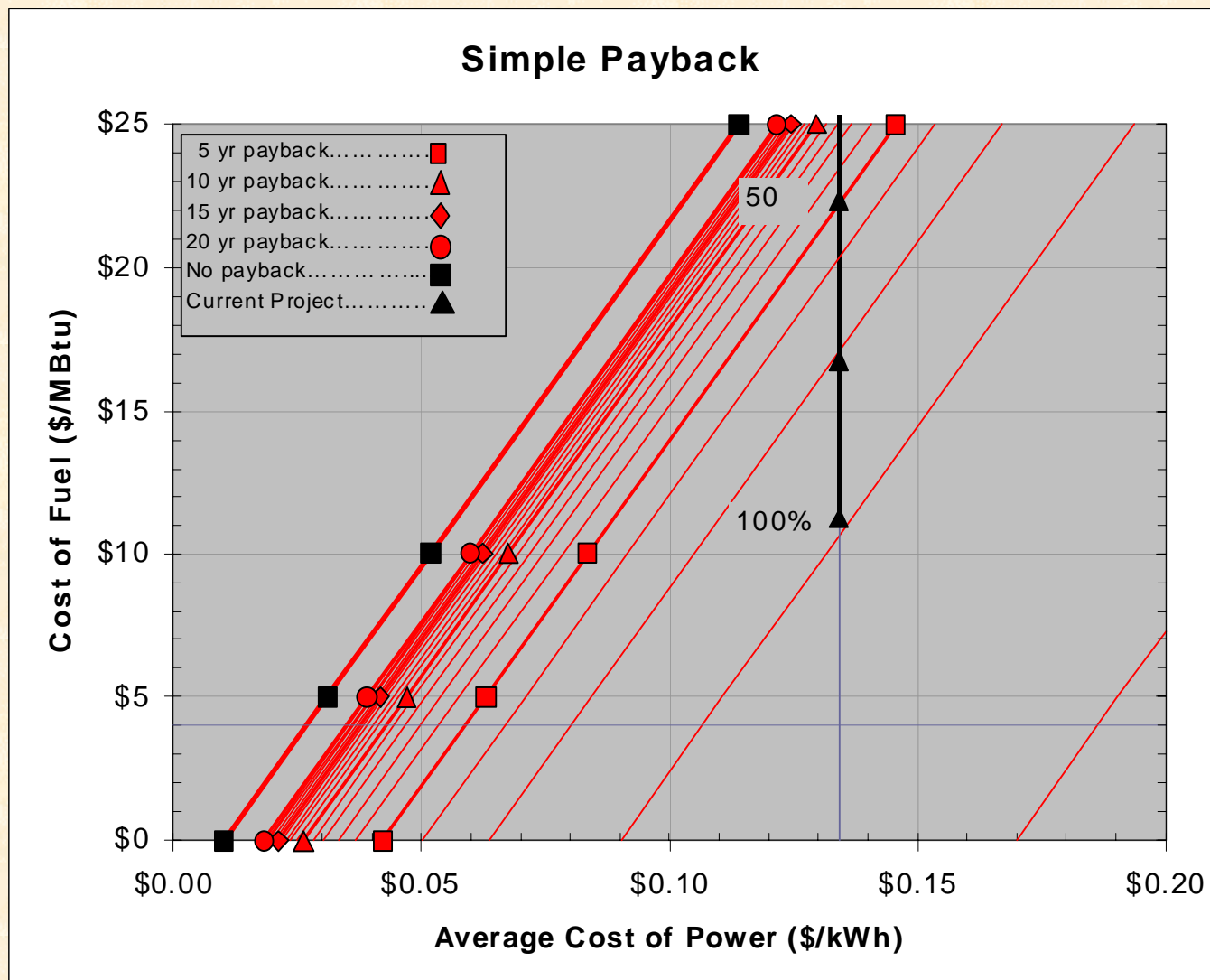


# Free CHP Screening for Federal Sites

- **Site completes short excel data form**
  - Easy to access information on energy costs, use and existing equipment
- **FEMP sends report to site summarizing results of screening analysis**
  - CHP metrics, favorable and unfavorable
  - If/when is further study merited?

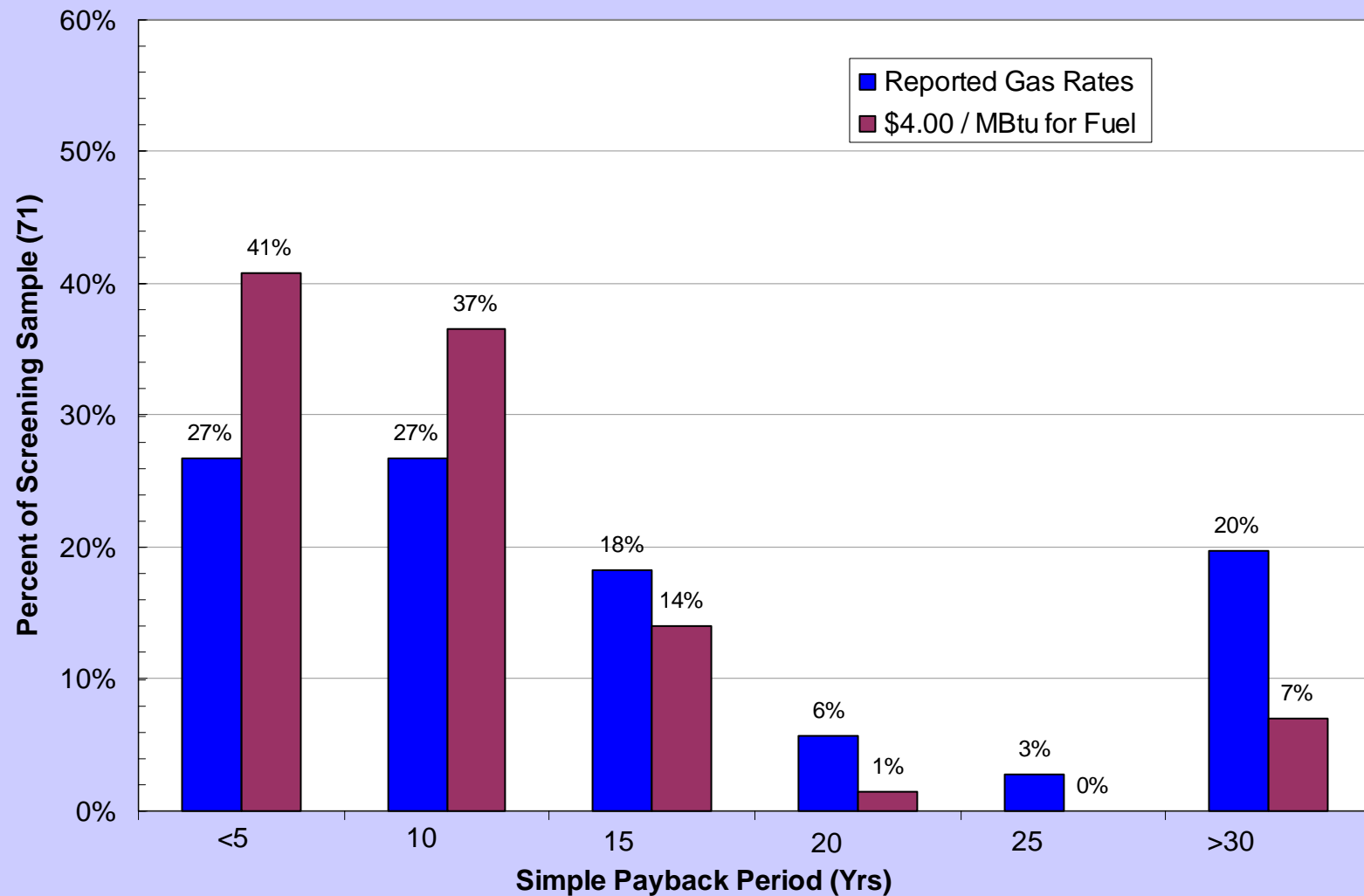


## Reports to agencies include graphic feedback



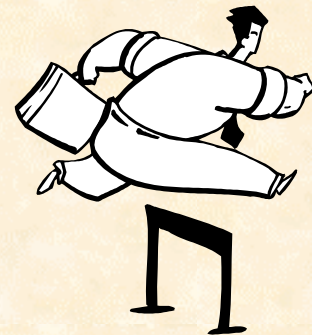
# Screening Results

Simple Payback Periods  
100% Waste Heat Utilization



# Screening Results:

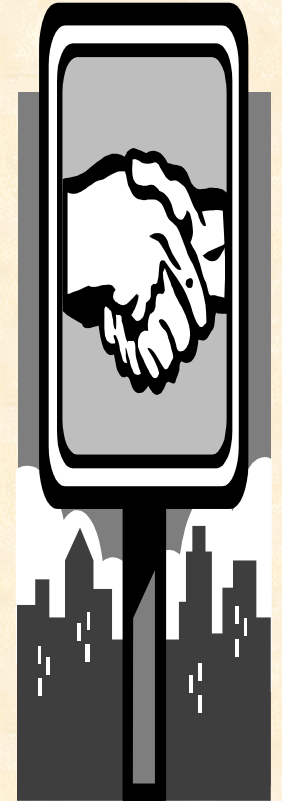
- **Need to maximize use of waste heat with CHP**
- **Best opportunities are in large, energy intensive sites, hospitals, military bases**
- **Energy security/other upgrades improve economics**
- **Low electric rates and uncertainty over future gas/fuel prices present obstacles**



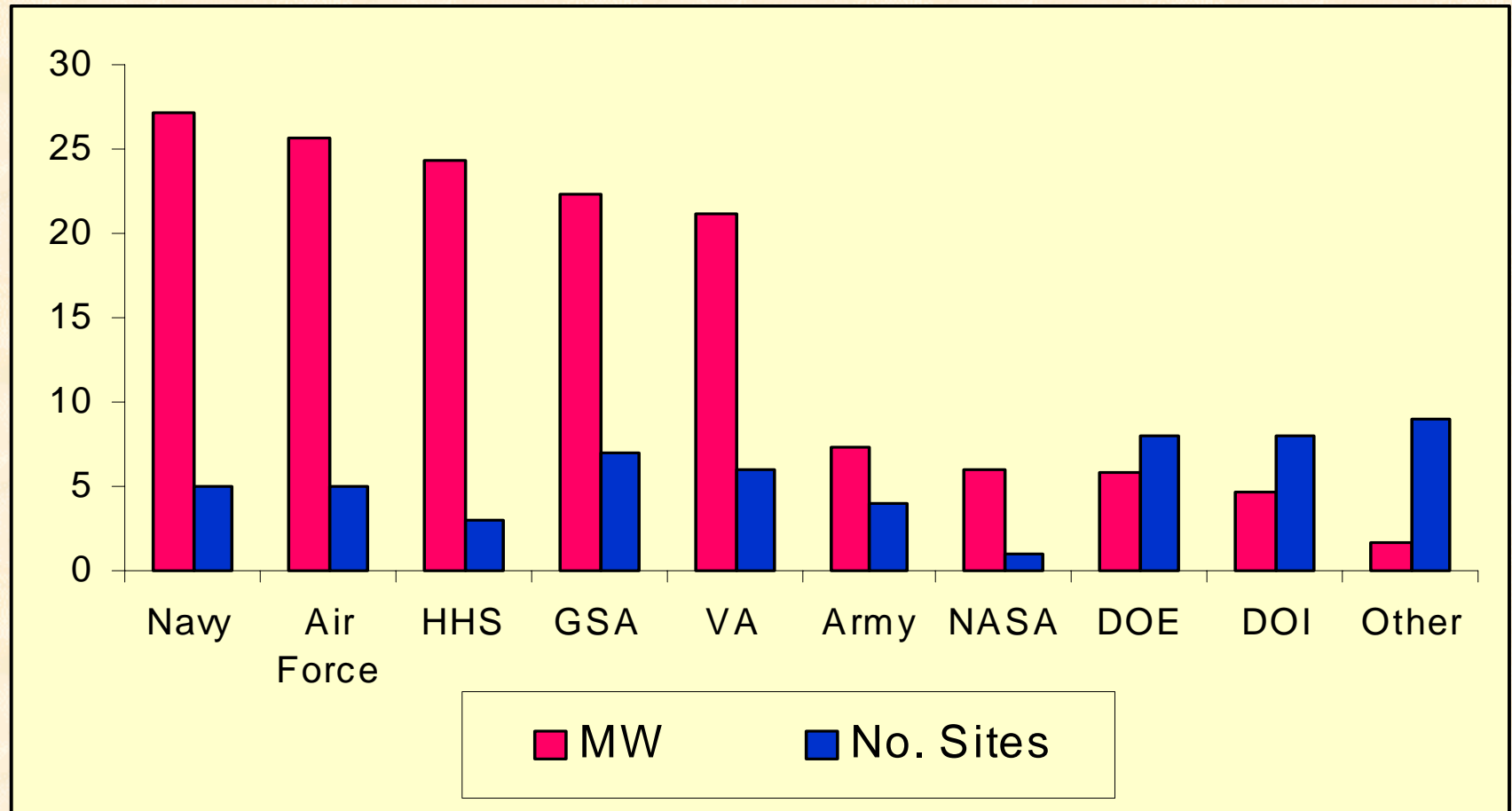


# Who Does What?

- **Private partners are essential--**  
promote, market, sell, finance,  
implement
  - ESCOs/Utilities
  - CHP industry & associations (USCHPA, AGCC, IDEA, etc.)
- **FEMP** offers federal agencies  
unbiased technical assistance on  
equipment, design and financing to  
help agencies secure best-value  
projects



# Federal Agencies Where The CHP Action Is



# Summary: Federal Agencies Can Call FEMP for Assistance with CHP Projects to help:

- **Determine if they have CHP potential**
- **Understand options with commercial technology**
- **Ensure best-value configurations go into their projects**
- **Help avoid surprises**



# CHP on the Web:

- Funding opportunities, Workshops, Case studies:  
[http://www.eren.doe.gov/femp/techassist/der\\_resources.html](http://www.eren.doe.gov/femp/techassist/der_resources.html)
- CHP Screening form, “Analysis of CHP Potential at Federal Sites” (Market Assessment), etc:  
[www.ornl.gov/femp/pdfs/chp\\_market\\_assess.pdf](http://www.ornl.gov/femp/pdfs/chp_market_assess.pdf)
- DOE Websites-FEMP <http://www.eren.doe.gov/femp/>  
Integrated Power Technologies and links:  
<http://www.eren.doe.gov/power/>

# FEMP CHP Contacts

- **Contact your Regional DOE Office:**  
[http://www.eren.doe.gov/femp/financing/femp\\_services\\_who.html](http://www.eren.doe.gov/femp/financing/femp_services_who.html)
- **DER/CHP Programs at FEMP HQ:**  
[Shawn.Herrera@ee.doe.gov](mailto:Shawn.Herrera@ee.doe.gov) (202) 586-1511
- **Keith Kline, ORNL FEMP CHP coordinator**  
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